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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



Appl. No. : 10/616,028 Confirmation No. 1533
Applicant : Mark E. Addis
Filed : July 9, 2003
TC/A.U. : 3673
Examiner : Alison K. Pickard

Docket No. : 085.10778-US(04-533)
Customer No. : 52237

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

APPEAL BRIEF

Dear Sir:

This is an appeal to the Board of Patent Appeals and Interferences from the final rejection of claims 1 - 3, 5, 6, 8 - 15, 17, 18, 28 and 29, dated May 17, 2006, made by the Primary Examiner in Tech Center Art Unit 3673.

REAL PARTY IN INTEREST

The real party in interest is United Technologies Corporation of Hartford, Connecticut.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant, Appellant's legal representative, or Assignee which will directly affect or be directly affected by or

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have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1 - 3, 5, 6, 8 - 10, and 28 are pending in the application and are on appeal. Claims 4, 7, 11 - 27, and 29 have been cancelled.

A true copy of the claims on appeal is attached hereto as Appendix A.

STATUS OF AMENDMENTS

An amendment after final rejection was filed on August 21, 2006. In an advisory action mailed September 1, 2006, the Primary Examiner entered the amendment for the purposes of appeal.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention, as set forth in independent claim 1, relates to a brush seal (10) comprising a back plate (11), a side plate (13), a first set (17, 21) of bristles, and a second set (19, 23) of bristles between the first set of bristles and the side plate. See paragraphs 0020 and 0021 on pages 4 and 5 of the specification and FIGS. 1 - 3. The second set of bristles has a length and

abuts the first set of bristles at a point adjacent a joint (27) between the back plate and the side plate and substantially along the length. See FIG. 1 of the drawings. The first set of bristles has a length greater than the length of the second set of bristles. See paragraph 0028 on page 7 of the specification and FIGS. 1 - 3 of the drawings. The second set of bristles cooperates with the side plate to reduce windage effects on the first set of bristles. See paragraph 0024 on pages 5 and 6 of the specification.

As set forth in claim 2, the second set of bristles is more rigid than the first set of bristles. See paragraph 0028 of the specification.

As set forth in claim 3, the bristles in the second set have a larger diameter than the bristles in the first set. See paragraph 0029 on page 7 of the specification.

As set forth in claim 5, the sets of bristles have non-interfering lay angles. See paragraph 0026 on page 6 of the specification and FIG. 3 of the drawings.

As set forth in claim 6, the first and second sets of bristles have first and second lay angles respectively. A difference between the first and second lay angles is between approximately -15 degrees and 15 degrees. See

paragraph 0026 on page 6 of the specification and FIG. 3 of the drawings.

As set forth in claim 8, the second set of bristles extends at least to the back plate. See paragraph 0028 of the specification and FIG. 1 of the drawings.

As set forth in claim 9, the first and second sets of bristles comprise separate bristle packs. See paragraph 0021 of the specification and FIG. 3 of the drawings.

As set forth in claim 10, the brush seal further comprises a windage cover (15). See paragraph 0020 on pages 4 and 5 of the specification. Also see FIGS. 1 and 2 of the drawings.

As set forth in claim 28, the first set of bristles abuts the back plate so that the back plate supports the first set of bristles. See FIG. 1 in the drawings.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are as follows:

(1) The rejection of claims 1 - 3, 5, 6, 8, 9, and 28 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,480,165 to Flowers; and

(2) The rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over Flower in view of U.S. Patent No. 5,496,045 to Millener.

ARGUMENT

I. Claims 1 - 3, 5, 6, 8, 9, and 28 Are Not Anticipated By Flowers

(A) Claim 1 Is Not Anticipated By Flowers

Claim 1 calls for a brush seal comprising a back plate, a side plate, a first set of bristles, and a second set of bristles *between* the first set of bristles and the side plate. The claim also goes on to call for the second set of bristles to have a length which is shorter than the length of the bristles forming the first set; for the second set of bristles to abut the first set of bristles at a point adjacent a joint between the back plate and the side plate and substantially along the length of the second set of bristles; and for the second set of bristles to cooperate with the side plate to reduce windage effects on the first set of bristles.

It is well settled law that in order for a reference to anticipate a claim, all of the limitations set forth in the claim must be expressly or inherently found in the cited reference. See *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d

1043, 1047, 34 USPQ2d 1565, 1567 (Fed. Cir. 1995).

Anticipation is an issue of fact. See *in re Graves*, 69 F.3d 1131, 1147, 36 USPQ2d 1697, 1700 (Fed. Cir. 1995); *diversiteceh Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988). It is submitted that the Flower patent being relied upon by the Examiner does not anticipate the subject matter of claim 1 because all of the limitations of claim 1 can not be found in Flower.

The Examiner, on page 2 of the final rejection, states that Flower discloses a brush seal comprising a back plate (15), a side plate (21), a first set of bristles (19) and a second set of bristles (17). The Examiner also states that the first set of bristles (19) has a length greater than the length of the second set. The Examiner contends that the second set abuts the first set at a point adjacent the joint (near 22) between the plates and substantially along the length of the first set (as seen in FIG. 1). The Examiner further contends that the second set (17) is more rigid and has non-interfering lay angles as shown in FIG. 4.

The embodiment shown in FIG. 1 clearly does not meet the limitations of claim 1. In particular, in the embodiment of FIG. 1, the second set of bristles (17) is

not located between the first set of bristles and the side plate. Instead, the second set of bristles (17) is located between the back plate (15) and the first set of bristles (19). Thus, the embodiment of FIG. 1 does not meet the limitation that the second set of bristles be located between the side plate and the first set of bristles.

In FIG. 6 in Flower, there is a shorter set of bristles placed against the side plate; however, there is a spacer ring (25) positioned between the first set of bristles and the second set of bristles. Thus, in this embodiment, the limitations of claim 1 requiring the first set of bristles to abut the second set of bristles adjacent the joint between the back plate and the side plate and substantially along the length of the second set of bristles would not be met.

The Examiner points to the last sentence in the Abstract and to claim 3 in Flowers as teaching the missing subject matter; however, neither of these statements would lead to an embodiment such as that claimed in claim 1. For example, the embodiment of FIG. 6 in Flower meets the limitations of claim 3 and the last sentence of the Abstract and still does not meet the limitations of claim 1. To say that the limitations of claim 1 are met would require conjecture and speculation and one can not base an

anticipation rejection on conjecture or speculation. See *W.L. Gore and Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 314 (Fed. Cir. 1983). Also, anticipation can not be established if it is necessary to pick, chose, and combine various portions of disclosure, not directly related to each other by teachings of reference, in order to find that the application claim reads on that reference. See *In re Arkley*, 455 F.2d 586, 587-88, 172 USPQ 524, 526 (CCPA 1972).

As for the contention that the spacer shown in FIG. 6 does not have to be present, the fact remains that Flower does not teach or suggest such an embodiment which meets all the limitations of claim 1.

For these reasons, claim 1 is not anticipated by Flower and the rejection should be reversed.

*(B) Claims 2, 3, 5, 6, 8, 9, and 28
Are Allowable Over Flowers*

Claims 2, 3 and 9 are allowable for the same reasons as claim 1.

Claims 5 and 6 are allowable because they are not anticipated by Flower. Flower in FIGS. 4 and 5 teaches embodiments where the bristles have different lay angles. However, it appears that FIG. 4 is addressed to a second embodiment of a seal assembly such as that set forth in

FIG. 3 which shows a second embodiment. See column 4, lines 12 - 15 of the Flower patent. In this second embodiment, the first and second set of bristles do not abut each other at a point adjacent a joint between the side plate and the back plate. Thus, while, Flower may teach the use of different lay angles, they are not used in an embodiment which meets the limitations of claim 1 whose subject matter is incorporated into claims 5 and 6.

As for the embodiment of FIG. 5, it should be noted that the Flower specification in column 4, lines 16 - 17 calls this a third embodiment. It is not clear whether the bristles abut each other at a point adjacent a joint between the side plate and the back plate or not. It is also not clear whether the angles of the bristles in either of the embodiments of FIGS. 4 and 5 meet the angle limitations of claim 6.

As noted above, anticipation can not be based on picking and choosing elements of a reference. *Id.*

Claim 8 is allowable because Flower does not disclose an embodiment where the second set of bristles extends at least to the back plate in combination with the other features described in claim 1.

Claim 28 is allowable for the same reasons as claim 1 and further because the first set of bristles in Flower abuts the side plate, not the back plate.

*II. Claim 10 Is Not Rendered Obvious
By the Combination of Flower
And Millener*

Claim 10 calls for the brush seal to further comprise a windage cover. Flower clearly does not disclose such a cover.

Millener is cited as teaching a brush seal comprising bristles, a back plate, and a front plate. Millener is also cited as teaching providing a windage cover on the front plate (10) to control lifting forces that disrupt the sealing of the bristles.

The Examiner contends that it would have been obvious for one of ordinary skill in the art to modify the side plate of Flower with a cover as taught by Millener to improve the sealing effect by controlling disruptive lifting forces.

Assuming one of ordinary skill in the art would be motivated to make this combination, Millener does not overcome the aforementioned deficiencies of Flower. For this reason, claim 10 is allowable.

CONCLUSION

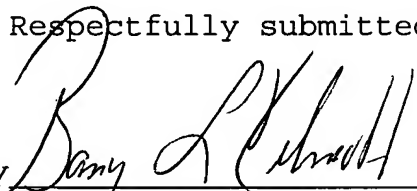
For the foregoing reasons, the Board is hereby requested to reverse the rejections of record and remand the instant application back to the Primary Examiner for allowance.

APPEAL BRIEF FEE

The Director is hereby authorized to charge the appeal brief fee of \$500.00 to Deposit Account No. 21-0279. Should the Director determine that an additional fee is due, he is hereby authorized to charge said additional fee to said Deposit Account.

Respectfully submitted,

By



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IN TRIPLICATE

Date: October 17, 2006

I, Karen M. Gill, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on October 17, 2006.



CLAIMS ON APPEAL - APPENDIX A

1. A brush seal comprising:

a back plate;

a side plate;

a first set of bristles; and

a second set of bristles between said first set of bristles and said side plate, said second set of bristles having a length and abutting said first set of bristles at a point adjacent a joint between said back plate and said side plate and substantially along said length;

wherein said first set of bristles has a length greater than the length of said second set of bristles and said second set of bristles cooperating with said side plate to reduce windage effects on said first set of bristles.

2. The brush seal of claim 1, wherein said second set of bristles are more rigid than said first set of bristles.

3. The brush seal of claim 2, wherein bristles in said second set have a larger diameter than bristles in said first set.

5. The brush seal of claim 1, wherein said sets of bristles have non-interfering lay angles.

6. The brush seal of claim 2, wherein said first and second sets of bristles have first and second lay angles, respectively, and a difference between said first and second lay angles is between approximately -15° and 15° .

8. The brush seal of claim 1, wherein said second set of bristles extends at least to said back plate.

9. The brush seal of claim 1, wherein said first and second sets of bristles comprise separate bristle packs.

10. The brush seal of claim 1, further comprising a windage cover.

28. The brush seal according to claim 1, wherein said first set of bristles abuts said back plate so that said back plate supports said first set of bristles.

EVIDENCE - APPENDIX B

NOT APPLICABLE

RELATED PROCEEDINGS - APPENDIX C

NOT APPLICABLE